

Application No. 10/035,861  
Amdt. Dated September 17, 2006  
Reply to Office Action of May 17, 2006

## **REMARKS/ARGUMENTS**

### **1. Remarks on the Amendment**

Claims 1, 14 and 24 have been amended to more specifically define Applicant's claimed invention. Antecedent basis of the amendment can be found in the Specification as filed. Applicant submits that no matter is introduced by the amendment.

### **2. Response to the Rejections of Claims 1-4, 6-16 and 18-25 Based Upon 35 U.S.C. §103(a)**

Claims 1-4, 6-16 and 18-25 stand rejected under 35 USC §103(a) as being unpatentable over Muller et al. (U.S. Patent No. 5,804,384) and in view of Beattie et al. (U.S. Patent No. 5,175,209). This rejection is respectfully traversed.

The applicable case law for a rejection under 35 U.S.C. §103(a) has been discussed previously. In the interests of brevity, Applicant requests the Examiner to note the discussions in the response dated March 3, 2006 and consider that material incorporated herein by reference.

As positively recited in the amended independent Claims 1, 14 and 24, Applicant's claimed method includes adding a test sample into a test column that has a plurality of separated snares; at least one of said snares being a test snare that has thereon at least two different target capture materials, a first target capture material being specific to a first test material in the test sample and a second target capture material being specific to a second test material in the test sample.

Therefore, Applicant's claimed method detects multiple test materials by providing at least two different target capture materials on one test snare, binding multiple test materials on that one test snare, adding different probes sequentially to the same test snare, and detecting different test materials sequentially on the same

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• test snare.

It is very important to understand that in the instant method the at least two different target capture materials are not separated on that test snare. The separations are only present between the snares.

Applicant submits that the claimed subject matter is not disclosed, taught or suggested by the art of record.

More specifically, Muller et al fail to teach Applicant's claimed method which has the first and second capture materials binding to the same test snare, and detects the first and the second test materials on the same test snare by a sequential detection process.

On the contrary, Muller et al. teach a method that detects multiple analytes on physically separated binding elements. As stated by the Examiner in the instant Office Action, "Muller et al. teach adding a test sample in to a test column having a plurality of snares, said snares having multiple capture materials, each separated by an inert spacer" (Page 2, Item 3, second paragraph of the instant Office Action).

Therefore, it is apparent that the Examiner has misunderstood the essence of Applicant's claimed method.

Applicant respectfully points out that Muller et al. teach away from Applicant's claimed invention. For the purpose of clarity, Applicant recites Muller et al.'s specific teachings below:

"The assay device consists of a tube, such as a capillary tube, containing a linear array of binding elements that each are linked to a distinct binding factor, to which a corresponding specific component binds. .... The binding elements can be configured to be adjacent to one another or they can be separated by regions lacking distinct binding factors." (Column 1, lines 56-65 of the reference, emphasis added.)

"One example of a device included in the invention consists of a

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vessel or channel (e.g., a tube, such as a capillary tube) containing a linear array of binding elements, each containing, as a binding factor on the binding element, an immobilized, distinct capture probe specific for a corresponding analyte." (Column 5, lines 55-60 of the reference, emphasis added.)

"The invention provides several advantages, as it permits simultaneous analysis of multiple analytes in a sample on a micro-scale with high sensitivity. Because detected analytes are physically separated on the devices, it is not necessary to use distinct labels on detector probes that are specific for different analytes." (Column 3, lines 9-14 of the reference, emphasis added.)

"An advantage of the present invention is that, due to the physical separation of the different specific detector probes on the device, a single label can be used on multiple, distinct detector probes in the same assay." (Column 11, lines 26-30 of the reference, emphasis added.)

Muller et al. further demonstrates the utility of their device with examples. As illustrated in Example II, the ALL-specific capture probes and CML-specific capture probes are all located at different areas of the device, which are further separated by gel contained no capture probes (i.e., inert spacer). (Column 18, lines 35-63 and Figs. 4A and 4B of the reference).

Based on the above, it is apparent that Muller et al's method relies on the physical separation of different binding factors in the device to achieve the detection of multiple analytes. This is exactly opposite of Applicant's claimed method which provides multiple target capture materials on one test snare, and achieve the detection of multiple test materials on the same test snare using a sequential detection process. Therefore, Muller et al. teach away from Applicant's claimed invention.

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The deficiencies of Muller et al's reference are not overcome by Beattie et al., as Beattie et al. fail to teach Applicant's claimed method of binding and detecting multiple test materials on the same test snare.

Based on the prior art teachings, one ordinary skilled in the art would not be motivated to combine the references to obtain Applicant's claimed invention. Even if one does, in the manner suggested by the Examiner, one could only end up detecting different test materials on Muller et al's physically separated different binding elements, which is fundamentally different from Applicant's method of detecting multiple test materials on the same test snare.

Therefore, Applicant maintains that Applicant's claimed invention defined by Claims 1, 14 and 24, are not obvious in view of the prior art of record.

With regard to Claims 2-4, 6-13, 15-16, 23 and 25, as described above, these claims are dependent upon independent Claims 1, 14 and 24. Under the principles of 35 U.S.C. §112, 4<sup>th</sup> paragraph, all of the limitations of each independent claim are recited in its respective dependent claims. As described above, independent Claims 1, 14 and 24 are not obvious in view of the prior art of record, as such Claims 2-4, 6-13, 15-16, 23 and 25 are submitted as being allowable over the art of record.

Accordingly, Applicant respectfully requests withdrawal of the rejection of Claims 1-4, 6-16 and 18-25 based upon 35 U.S.C. §103(a).

### 3. Response to the Rejections of Claims 5 and 17 Based Upon 35 U.S.C. §103(a)

Claims 5 and 17 stand rejected under 35 USC §103(a) as being unpatentable over Muller et al. (U.S. Patent No. 5,804,384), in view of Beattie et al. (U.S. Patent No. 5,175,209), and further in view of Lee et al (US 5,672,475). This rejection is respectfully traversed.

Claims 5 and 17 are dependent claims of Claims 1 and 14, under the principles of 35 U.S.C. §112, 4<sup>th</sup> paragraph, all of the limitations of each independent claim are recited in its respective dependent claims. As discussed above,

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independent Claims 1 and 14 are not obvious in view of the prior art of record, as such Claims 5 and 17 are submitted as being allowable over the art of record.

Accordingly, Applicant respectfully requests withdrawal of the rejection of Claims 5 and 17 based upon 35 U.S.C. §103(a).

It is respectfully submitted that Claims 1-25, the pending claims, are now in condition for allowance and such action is respectfully requested.

Applicant's Agent respectfully requests a telephone interview with Examiner Chunduru and Supervisory Examiner Gary Benzion to discuss the pending rejections and the response submitted herein. Enclosed is the form PTOL-413A for formally requesting the interview.

9/17/2006  
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